

# Space News Roundup

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No. 36

## Quayle: NASA can do the job

By Pam Alloway

Vice-President Dan Quayle delivered an upbeat message Wednesday during a stop at JSC, applauding NASA employees for their hard work and visionary outlook.

"Recently we've heard some criticism about problems, whether with the Hubble Telescope or the fuel leaks in the shuttle," Quayle told a packed Teague Auditorium. "With problems like these, people have asked the question: Can NASA do the job? My answer is simply, you bet NASA can do the job."

Quayle congratulated NASA employees on their commitment to the future and promised presidential support for ongoing work and plans for future exploration.

"The President said it best last year when he said that we cannot take the next giant leap for mankind tomorrow unless we start with a single step today," Quayle said.

"That's the business you're in - the cutting edge of progress," Quayle said. "You're doing what no one else has done before. And yes, there are risks to it, and problems no one could have anticipated. But it is American ingenuity, NASA ingenuity, that will find the solutions and answer the challenges."

Quayle was in Texas to support state Republican candidates during various campaign events. He spoke to about 650 JSC and contractor employees who were in the Teague Auditorium and thousands of other NASA employees at other sites who watched his speech via satellite. NASA Administrator Richard Truly, Associate Administrator for Spaceflight William Lenoir, and JSC Director Aaron Cohen joined Quayle on stage.

Quayle told employees that America must continue to play a vital role in the future exploration of space.

"My generation expected man to land on the Moon, and my children's generation anticipates men and women landing on Mars," he said.

Quayle criticized Congress for considering cuts to the administration's recommended 24 percent budget increase for NASA. He also told the audience he had established an outside advisory committee chaired by Norm Augustine that will examine NASA's goals and objectives.

Following Quayle's remarks, Cohen presented the Vice-President with a plaque and Quayle shook hands with several JSC and contractor employees.



JSC Electronic Photo by Robert Markowitz  
**Vice President Dan Quayle emphasizes his support for NASA and America's space program during his Wednesday visit to JSC. Quayle spoke to about 650 employees in a packed Teague Auditorium.**

## Hydrogen leak aboard Columbia scuttles launch

By Kelly Humphries

The Space Shuttle *Columbia* remains on Launch Pad 39A today after a third unsuccessful launch attempt. The culprit: a liquid hydrogen leak in the aft engine compartment.

Shuttle Program Director Robert Crippen said a new launch target would not be set until the launch team at Kennedy Space Center could complete its troubleshooting and design a repair procedure.

"I'm not at the point where I want to set STS-35 aside yet," Crippen said.

The STS-35 mission, carrying seven crew members, the Astro-1 ultraviolet astronomy instruments and the Broad Band X-Ray Telescope, had been scheduled to lift off at 12:20 a.m. Thursday.

The leak, which reached 6,000 parts per million, was detected during the first hour of tanking Wednesday afternoon, and appeared to be isolated in the aft compartment. The size of the leak is 25-30,000 standard cubic inches per minute, Crippen said. A cubic

inch is about the size of an ice cube. "I would love to have a set of eyeballs sitting in the aft right now, because I'm certain you could see it," he said.

The STS-35 mission was first scrubbed because of leaking hydrogen May 29. Investigators concluded that the leak was in the external tank shaft seals that are



**STS-35**  
Astro-1

part of the 17-inch disconnect umbilical assembly, external to *Columbia*. Tiny glass beads and other debris

found in the seal were believed to have caused the seals to leak. The countdown was stopped a second time when telemetry from BBXRT was lost and repairs had to be effected.

Following Wednesday's scrub, Crippen said there was no indication of external leakage and that the current leak has a different source. He added that during the previous launch attempt and an interim tanking test, there was an indication of leakage in the aft compartment, but that after extensive testing it appeared the

Please see **COLUMBIA**, Page 4

## Discovery rolled out, ready for Ulysses

By Kyle Herring

The Space Shuttle *Discovery* rolled to launch pad 39B Tuesday night at the Kennedy Space Center two days later than planned, but the delayed roll out shouldn't interfere with the Oct. 5 launch of the Ulysses solar probe.

"We're really on the downhill slope in the processing now that we're at the pad," said Dave O'Brien, *Discovery* manager at JSC. "Getting to the pad is a significant milestone to meeting the opening of our launch window."

Work to prepare the orbiter for roll out was delayed when workers discovered several bent connector pins during the electrical connec-

tion of *Discovery* to its external tank in the Vehicle Assembly Bldg. Once workers repaired the connection and completed the mating work, *Discovery* was powered up.

During power up, technicians monitoring orbiter systems noticed an estimated 10 percent decrease in the amount of freon in the loop number 1 accumulator. The freon loop runs through the midbody and aft compartment of the orbiter.

The difference was recorded from the time the orbiter was powered down in the Orbiter Processing Facility to the time it

was powered up in the VAB. Engineers are analyzing the discrepancy and discussing options to work the problem at the pad.

The roll out delay leaves an extra day in the processing flow at the



**STS-41**

launch pad for unexpected work prior to the planned launch. The launch window

spans two hours and 18 minutes and opens at 6:35 a.m. CDT Oct. 5.

The window for the Ulysses launch closes Oct. 23 because of a planetary alignment that is required to provide a gravitational assist to the spacecraft on its way

to study the Sun's polar regions.

*Discovery* was rolled to the pad ahead of *Columbia*'s launch from pad 39A. It was only the third time two shuttle orbiters occupied both pads at the same time.

Ulysses was transferred Aug. 28 to the launch pad, where it was stored in the rotating service structure's payload changeout room to await *Discovery*'s arrival to the pad.

Crew for *Discovery*'s 11th flight is: Commander Dick Richards, Pilot Bob Cabana and Mission Specialists Bill Shepherd, Bruce Melnick and Tom Akers. Richards flew on STS-28 and Shepherd flew on STS-27. STS-41 will mark the remaining crew members' first space flights.

## JSC sets deadline for smoke-free environment

JSC will provide a smoke-free environment beginning Jan. 1, and employees who want to quit smoking can get onsite help.

Under the new policy, smoking will not be permitted inside JSC-owned buildings, leased office space or government vehicles. Smoking will be permitted in outdoor areas, except where prohibited for operational or safety reasons such as nearby flammable materials.

JSC Director Aaron Cohen announced the new policy Wednesday, citing growing scientific concern that environmental tobacco smoke may be a dangerous toxin linked to serious illnesses.

"Although there is likely to be controversy for years to come about the effects of environmental

tobacco smoke," Cohen said, "the growing medical evidence cannot be ignored, and I am unwilling to take unnecessary chances with the health of our work force."

The policy change follows nearly two years of controlled smoking at JSC. In March 1987, the first formal smoking policy was established largely because of medical evidence announced by the U.S. Surgeon General which placed nonsmokers at risk of developing disease from long-term exposure to environmental, or passive, tobacco smoke.

JSC has attempted to minimize this by banning smoking in common work areas, but has continued to allow smoking in hallways, private offices, lobbies and vending

Please see **SMOKE**, Page 4

**Countdown to a Smoke-free Environment**



**January 1, 1991**

## NASA establishing limits on ozone-harming compounds

The Center Operations Directorate is surveying JSC's use of ozone-harming compounds as a first step in a NASA-wide push to limit their use.

John Herrmann, chief of the Environmental Services Office, said NASA Headquarters has proposed that all NASA installations prohibit the nonessential use of chlorofluorocarbons by 1995.

Chlorofluorocarbons (CFCs) are used for refrigeration, degreasing, air conditioning, sterilization and fire suppression, among other things.

Each year, JSC uses approximately 130,000 pounds of compounds subject to the phase-out but is attempting to substitute less harmful compounds where possible, he said.

Most CFCs are believed to be harmful to the environment, but hydrogenated CFCs generally are not. For example, the older chillers in Bldg. 24 use one of the types of freon that is being phased out, but the new chillers in Bldg. 28 were designed to use the more environmentally acceptable Freon 22, Herrmann said. Unfortunately, simple substitution of the refrigerants within the older equipment is not possible.

The NASA push is the result of the Montreal Accord, a treaty signed by the U.S. and most of the world's other industrialized nations. The treaty is aimed at significantly reducing or eliminating the production and use of CFCs, which have been linked to

Please see **OZONE**, Page 4

JSC

# Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Gift Store from 10 a.m. to 2 p.m. weekdays.

- General Cinema (valid for one year): \$3.75 each.
- AMC Theater (valid until May 1991): \$3.50 each.
- Sea World (San Antonio, year long): adults, \$17.25, (2-day \$21.95); children (age 3-11) \$14.75, (2-day \$18.95).
- Astroworld (valid 1990 season): adult \$15.97; children \$9.21; season pass, \$39.95; Waterworld, \$8.15; two-day—AW/WW \$18.47.
- Lovin' Feeling Concert (7:30 p.m. Sept. 29, Summit): \$16.
- Country and Western Dance featuring Spur 28 (7 p.m. Sept. 8, Gilruth Recreation Center), includes barbecue dinner buffet \$15.
- State Fair of Texas Trip (7 a.m., Sept. 29—6 p.m., Sept. 30), includes transportation, admission, lodging, buffet breakfast: \$70.
- Astros vs. Braves (7:30 p.m., Sept. 28, Astrodome mezzanine): \$5.
- Texas Renaissance Festival Bus Trips (Oct. 13 or Nov. 10 - Tickets go on sale Sept. 10): child, \$6 (under 5), \$9; adult, \$12.
- Texas Renaissance Festival (All Sat. and Sun. from Oct. 6 to Nov. 18): child, \$4.95; adult, \$8.95.

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# Gilruth Center News

**EAA badges**—Dependents and spouses may apply for a photo I.D. 6:30-9 p.m. Monday-Friday.

**Defensive driving**—Course is offered from 8 a.m.-5 p.m., Oct. 13 and Nov. 17; cost is \$15.

**Weight safety**—Required for use of the Rec Center weight room. The next classes will be Sept. 5 and Sept. 20, from 8-9:30 p.m. Cost is \$4.

**Aerobics and exercise**—Both classes are ongoing.

**Country and western dance**—Lessons begin Sept. 10 and will be held every Monday for six weeks; cost is \$20 per couple.

**Ballroom dance**—Professional instruction in beginning, intermediate, and advanced ballroom dancing. Classes begin Oct. 4 and meet every Thursday for eight weeks. Beginning and advanced classes meet 7-8:15 p.m. Intermediate class meets 8:15-9:30 p.m. Cost is \$60/couple.

**Tennis**—Beginning tennis lessons, Mondays 5:15-6:45 p.m. six-week course is \$32. Sign-ups begin immediately. Lessons begin Sept. 10. Advanced beginner class will be offered on Wednesdays beginning Sept. 12.

**Soccer**—Registration will be Sept. 17. Information at the Rec. Center.

**Flag Football**—Registration will be done by a lottery system the week of Oct. 1. Come by the Rec. Center, Rm. 146 for more information.

**Softball Tournament**—Last Men's Open "C" Tournament of the year is Sept. 29 & 30; Fee is \$95. Entry deadline is Sept. 27 at 7:30 p.m.

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# Technical Library News

The following selections are now available in JSC's Technical Library, Bldg. 45, Rm. 100.

- Principles of Instructional Design*, Robert Mills Gagne, 1988, LB 1028.35 .G33.
- Proceedings, First International Conference on Ada Programming Language Applications for the NASA Space Station*, 1986, QA 76.73.A35 P76.
- Mathematical Analysis and Numerical Methods for Science and Technology*, Robert Dautray, 1988-1990, QA300.D34.
- Moon Trip: A Personal Account of the Apollo Program and its Science*, Elbert A. King, 1989, QB592.K55.

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# Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

## Property

Rent: Lake Livingston wtrfrnt. house, 3-2, CA&H, furn., decks, pier, ex. cond., wk/wknd. rates. 482-1582.

Lease: CL near NASA, 3-2-2, Middlebrook II, 1,940 sq. ft., FPL, gar. door opener, avail Oct., ex. cond., \$825/mo. plus dep., no pets. 480-3260.

Tahoe time share condo, 2 BR, 1 wk. real time, 1 wk. month 538-1599.

Sale/Lease: 3-2-2, Friendswood Wedgewood Village, 1,600 sq. ft., formal DR, new paint/carpet, \$68,900 or \$750/mo. Gretchen, 282-6650 or 482-6744.

Sale: Meadowbend, 3-2-2, gas/elec., miniblinds, fans, microwave, 8.5% FHA assum. loan. 538-1071.

Sale: Friendswood, 3-2-2, brick, deck, new paper/paint, fans, blinds, \$66,500. 482-6651.

Sale: Bay Glen, 4-2.5-2, 2,090 sq. ft., 9.5% FHA assum. Melinda, x30257 or 488-7449.

Sale: Friendswood, 3-2-2D, contemp., atrium, FPL, decking, whirlpool, \$93K. 482-2138.

Lease: CLC condo, 2-1, FPL, all appl., blinds, W/D conn., \$425/mo. 486-0315.

Lease: Friendswood, 120x162, all util. Rick, 283-1988 or 996-8961.

Lease: Webs / Ellington, 2-1 apt., \$425. Dave, x38156 or 486-5181 or Herb, x38161.

Sale: 60 acres on Hwy. 80, 3 mi. from Karnes City, TX, 50 mi. from San Antonio, 2-story house in El Campo on 1.50 acres w/fruit trees. 783-9164.

Rent: Room in big house, \$270/mo., incl. util./maid, Sageglen, Eric, x38420 or 484-9179.

Rent: Galveston condo, sleeps 6, furn., Seawall Blvd. & 61st St. dly. w/wkly. wknd. rates. x33479 or 486-0788.

**Cars & Trucks**

'88 Acura Integra LS, 30K mi., AC, PW, PL, AM/FM, cass., gray, ex. cond., \$10.5K. 996-8410.

'80 GMC Van Rally STX, 8 pass., loaded. x33656 or 486-8276.

'80 Pontiac Phoenix, V6, AC, 5-dr. liftback, new auto. trans. w/1 yr. warr., new batt., \$1,950. x30092 or 481-3637.

'80 Mazda B2200, pick up notes, \$210 mo., 1,100 mi. Joselyn, x37527.

'73 VW Beetle, new paint, reb. clutch eng., body ex. cond., \$1,150 nego. 488-8286.

'81 Chev Luv PU, step side, AC, 4-spd., 4 cyl., new tires, paint. 332-6266.

'83 Toyota Corolla, 2-dr., auto., air, good cond., \$1,495. x38396 or 488-1689 or 280-0344.

'88 Olds Cutlass Sierra XC, 2-dr., 34K mi., ex. cond., \$7,800. 334-2647.

'83 Honda Prelude, 5-spd., sunroof, ex. cond., 83K

mi., \$4,500. B. Craig, x32338 or 1-420-2936.

'82 Ford F150 PU, 300 6 cyl., ex. cond., camper, \$3,500. Gary, x32494 or 554-2023.

'88 Chev custom hi-top van, loaded, 11K mi., \$16K, OBO. 482-0804.

'65 Olds Starfire sport coupe, 106K mi., orig. owner, \$1,500, OBO. Tom, x38298 or 488-4089.

'80 Mazda 626 sports sedan, \$1,800. x30428 or (409) 925-4784.

'81 AMC Concord, 4-dr., htc/bk., AC, auto., runs good, \$1K. 76 Chevette, 2-dr., htc/bk., std., new eng., runs, \$450 nego. 485-3554.

'80 Chev Citation, 4-dr., htc/bk., AC, runs well, int. needs work, \$550. 482-5621.

**Cycles**

'82 Harley Davidson Motorcycle Sportster XLH, elec. start, ex. cond., low mi., new batt., \$2,875. x30092 or 481-3637.

'87 Kawasaki KLR-650, multi-purpose, 6K mi., liquid cooled, elec. start, ex. cond., \$2K. Nicolas, 282-3307 or 486-4016.

**Boats & Planes**

'10' alum. Jon boat, good cond., \$100. Bill, x39020 or 991-0361.

12' Hobie Mono-Cat sailboat, trlr., fiberglass hull, 18' mast, 90 sq. ft. of sail, 2 sails, good cond., \$400. 280-2523 or 333-1762.

'10' alum. flat bottom boat, \$100. 538-1922.

'85 Bayliner Capn, 14' Bowrider, ex. cond., 50hp force OB w/trlr., \$3,200. 480-8461.

Lido-14 sailboat, sails, trlr., cntrbd. sloop, loaded, ex. cond., \$2,100. R. Hoover, x31360 or 996-7716.

Catalina 22 sailboat, good cond., 7.5hp motor, no trlr., \$5K nego. 482-5501.

Sailboat, GC 20 w/trlr., racing or cruising, \$2,500, OBO. 485-7629.

'16' Renegade ski boat, 140hp Evin., SST prop, new paint/carpet/ign. sys., ex. cond., \$2,750, OBO. 333-6668 or 486-7846.

'89' Boston Whaler, never been in wtr. 332-2319.

**Audiovisual & Computers**

IBM XT computer, Taxan Hi Res color, 640K, IBM 30 MB disk, AST 6-pack, clock, HW/SW, \$1,275. x30092 or 481-3637.

TRS 80 computer, CRT, \$15; IBM selectric I/O printer, \$15; TRS 80 videotex, \$15. 488-5155.

Word processor/printer, ex. cond., \$200. 333-7136 or 280-8777.

Kaypro II-83 (CPM-80) computer, 2 SDDD FD's with Basic, C, 2 assemblers, S/Sheet, \$350; Panasonic 1080, 9-pin dot matrix printer, \$110. Jessee, 280-2770 or 332-8869.

Alari 800 computer w/cass. drive, \$100. OBO. Gretchen, 282-6650 or 482-6744.

Osborne executive computer, TI855 printer w/2 cart., 12" Amber monitor, SW, manuals, \$450, OBO. 946-4013.

Hewlett-Packard Vectra ES 12, 40 Meg HD, 3.5 disk drive, Hewlett-Packard Video Graphics Color Display, keyboard., mouse, MS-DOS 3.3, windows 2.0, Aldus Pagemaker 3.0 plus manuals, \$2,200, OBO. Judith, 333-7503.

Macintosh SW, Microsoft Excel 2.2, \$200; Lightspeed Pascal 2.0, \$50; Video Works II, \$100; Macintosh books, \$10. Jim, 335-8543.

8K Microfazer print buffer for IBM parallel printer, \$45,

expand. to 64K. 484-1779.

**Musical Instruments**

King trombone, \$85. Gary, x33786 or 499-5786.

Trombone, \$120. 944-9152.

Guitars, acoustic & elec., misc. musical equip., sell or trade for something interesting. 333-6821 or 474-3637.

Yamaha ME-10 synthesizer/organ, incl. amp. spkrs., ex. cond., \$600. Jesse, 280-5914 or 486-5220.

Lowrey organ, Pageant Model M-155, \$1,200. Bill, x34315 or 485-6276.

**Pets & Livestock**

Hand fed Lutino cockatiel w/cage, \$100; finches, pairs only, Cordon Bleus, \$35; Lady Gouldians, \$90, Owl finches, \$90, male red-factor canary w/yellow/gold fem., \$60; very lg. finch/canary cage, will help set up, \$200. x39418 or 282-4911.

Himalayan kittens, CFA, seal pt., blue pt., tortie pt., flame pt., wormed, \$175-225; Persian CFA, piggy blue male extreme flat face, 1 yr. old, \$350. x30439 or 482-3645.

Exotic reg. Vietnamese min. pot-bellied pigs, breeders & pets avail., \$500-\$3,500/ea. James, 282-3750 or 482-6744.

Exotic Australian Shepherd (Aussie) dogs, \$200/ea.; finches, ring neck doves, guinea pigs, \$5/ea. Jim, 282-3750 or 482-6744 or Della, (409) 778-6976.

Rabbits, mini-lops, New Zealand, \$10-35. Gailo, 554-6200.

Baby cockatiels, hand fed, tame. Linda, 484-7834.

Collie pups, AKC, born 4-24-90, \$125-150. Myron, x39409 or 484-7583.

Toto look alike dog, 9 mos. old, spayed, free. x35978 or 332-9009.

AKC reg. std. smooth Dachshunds, blk./tan, 9 wks. old, shags, wormed, 489-1390.

2 yr. old male Cocker Spaniel, \$100, OBO. Cheryl, x49695 or 470-6779.

6 1/2" boa constrictor, very tame, approx. 10 yrs. old, low maint., eats 1 rat every 2-3 wks., cage, hotrock, etr. dish incl., \$175, OBO. Rich, x38519 or 996-7630.

**Household**

Dinette set, 42x60 table w/leaf, heavy steel base, padded vinyl swivel chairs, Spanish, ex. cond., \$125. Bill, x39020 or 991-0361.

Sectional sofa, 4-pc., good cond., \$150. 333-7136 or 280-8777.

Sofa/love seat, beige tones w/oak trim, good cond., \$200. Barb, x38996 or 482-9447.

Queen Anne dining table, 6 chairs, incl. 1 arm chair, ext to 4'10", ex. cond., \$1,500, OBO. 326-1254.

3-pc. matching LR set, couch, \$75; love seat, \$50; chair, \$25; lt. blue/dk. blue oriental rug, \$40. Susan Alsip, x38628 or 528-4540.

Queen sz. box spring/matt., \$100, OBO. x38918 or 482-9447.

White 6-dwr. all wood dresser, \$45; brn. wood 6-dwr. dresser, \$35; blue 3-dwr. dresser, \$35. 333-6558.

Antique DR table, 5 chairs, refin., ex. cond., spindle legs, leaf, \$600, OBO. Lucille, 480-3377.

42" round butcher block table, 4 chairs, \$100; bev. glass chandelier, 5 lts., \$85, 6-lt. chandelier w/prisms, \$125; lt. oak dressing screen w/lace inserts, \$100; 4' red brick FPL w/screen, fan, lighting, elec. heater, \$150. Barbara, 282-2569 or 781-5477.

Early Amer. solid maple sofa, chair, off white/peach/

Sept. 7. For more information, call Andy Lindberg, x31474.

**Cafeteria menu**—Special: chicken fried steak. Entrees: beef pot roast, shrimp chop suey, pork chops. Soup: navy bean soup. Vegetables: carrots, cabbage, green beans.

## Sept. 14

**Women's seminar**—The Federal Women's Program will have a one-day seminar on "The Competent Business Woman" from 8:30 a.m.-4:30 p.m., Sept. 14 and 17, in the Rec Center. For more information, call Freda Marks, x30606.

**Cafeteria menu**—Special: tuna and noodle casserole. Entrees: broiled codfish, fried shrimp, baked ham. Soup: seafood gumbo. Vegetables: corn, turnip greens, stewed tomatoes.

## Sept. 18

**AFCEA meets**—The next Armed Forces Communications and Electronics Association Houston Space chapter meeting will be held from 11:30 a.m.-1 p.m., Sept. 18 at the Holiday Inn on NASA Road 1. Daniel A. Nebrig will be guest speaker. Tickets cost \$12 for members and \$14 for non-members and include lunch. For more reservations and information call Veronica Mullins, 283-7342.

## Sept. 19

**SAFE kickoff**—The Houston Chapter of the SAFE Association's kickoff meeting will be at 11:30 a.m., Sept. 19, in the Rec Center Main Pavilion. For more information, call Karin Poehlmann, x33381.

**JSC Astronomy Seminar**—The JSC Astronomy Seminar will be from noon-1 p.m., Sept. 19, in Bldg. 31, Rm. 129. Dr. Karl Henize will speak on "Early Days of Satellite Tracking." For more information call, Al Jackson, 333-7679.

## Sept. 25

**BAPCO meeting**—Bay Area PC Organization (BAPCO) will meet at 7:30 p.m., Sept. 25, at the League City Bank and Trust. For more information contact Earl Rubenstein, x34807, or Tom Kelly, 996-5019.

## Sept. 26

**JSC Astronomy Seminar**—The JSC Astronomy Seminar will be at noon-1 p.m., Sept. 26, in Bldg. 31, Rm. 129. A videotape featuring V. Courtillot on "Internal Cause of the Cretaceous - Tertiary Boundary Events" will be shown. For more information, call Al Jackson, 333-7679.

## Oct. 20

**Wings Over Houston**—The 1990 Wings Over Houston Airshow will be Oct. 20. Call Col. Ray Jones, 850-7545, or Lu Lewis, 784-5200, for more information.

## Oct. 28

**Bicycle ride**—The Texas Coastal Century bicycle ride, a comprehensive tour of the greater Bay Area, will be held from 8 a.m.-5 p.m. on Oct. 28 at the University of Houston Clear Lake. Proceeds will benefit the Houston Food Bank and University of Houston-Clear Lake recreation and sports. Early registration by Oct. 1 is \$10; registration after Oct. 1 is \$15. For applications and more information, visit the Gilruth Recreation Center. Call Mike Prendergast at 335-2505 for details.

## Oct. 30

**Space conference**—The fourth annual "Space: Technology, Commerce and Communications" Southwest conference, sponsored by the Space Foundation, will be held Oct. 30-Nov. 1 at the Nassau Bay Hilton. For more information, call John McLeaish, 480-7445.

**Space conference**—Space Exploration '90, a conference and aerospace industry exposition sponsored by the NASA Alumni League, will be held Oct. 30-Nov. 1 at the South Shore Harbour Resort and Conference Center. Contact Carol Ramey, exposition manager, 800-765-7615, for more information.

## Nov. 6

**Ada users' symposium**—The third annual NASA Ada Users' Symposium will be Nov. 6 and is hosted by JSC and the MITRE Corp. For more information contact John Cobarruvias, x39357, or Sheila, 333-0910.

mint green, remov. cov., \$100. Jeannette, x35816 or 488-2509.

Imitation Duncan-Plffe drop leaf DR table w/ mahogany veneer, 3x2 folded, seats 12 ext., minor wtr. damage to ext. leaves, \$50. R. Franco, 992-2711.

8' sofa/love seat, \$250; 5-pc. sect sofa, \$250; blk. naugheyte sofa, chair, ottoman, \$100, misc. items, BO. 485-3554.

## Wanted

Want to buy bike for use at JSC, \$50 max. Gary, x33786 or 499-5786.

Want non-smoking roommate to share 3 BR home off 2094 in Lakeside subdiv., 10 min. from NASA, \$350/mo. plus 1/2 util. Holly, 486-7358.

Want folk banjo player/singer and a guitar player/singer to form folk music trio. Tom, 482-9172 or 282-4979.

Want David Robinson rookie cards, \$20 - Hoops I, \$8 - hoops II. Daniel, x38835 or 482-8494.

Want van pool riders from Sugarland/West Wood Mall, Loop 610 Park & Ride to JSC. Alice, x35234.

Want running stroller, good cond. x39589 or 486-4508.

Want to trade king sz. wtrbd. w/mirr. hdbd. for queen or king sz. frame & matt. Cheryl, x49695 or 470-8779.

Want jr. set of rt. handed golf clubs. R. Wright, 333-6350.

Want roommate to share house in Sageglen, furn., W/D, util., maid, \$270/mo. Eric, x38420 or 484-9179.

**Miscellaneous**

China cab. w/lt. din. table, 2 leaves plus 8 chairs, beige/gold plaid sofa, rust Lazy Boy recliner, 2 beige lamps, twin Hollywood style bed, 2-dwr. chest, 1 person basket swing, microwave and table. 280-2523 or 333-1762.

Fiberglass camper top for short bed, \$300. 538-1922.

Microwave burgular alarm (Solfan), \$75. 488-5155.

VW Trans Axle, \$100, OBO; port. washer, \$100; 195/75R14 tires, \$10/ea. 944-9152.

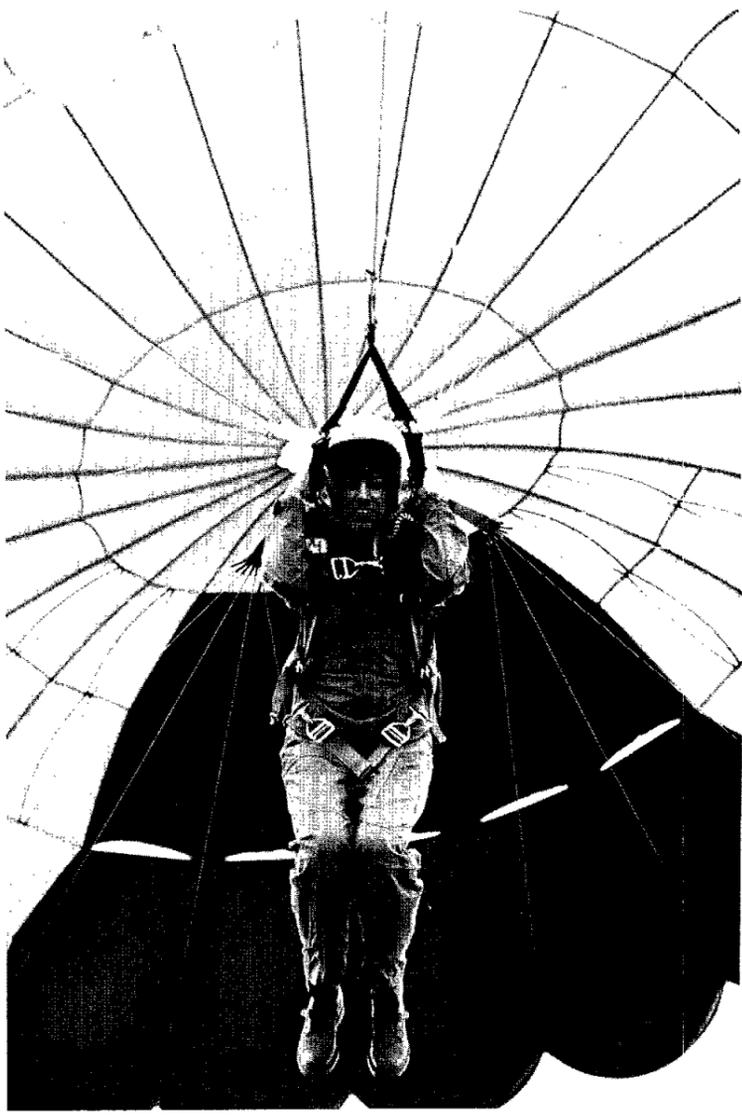
Scuba dive computer, U.S. divers J.M. Cousteau Data Scan II elec. dive computer, built in elec. dive tables, replaces press./depth gauge, \$380. Patrick, x32635 or 488-1079.

1 pr. sm. bookshelf spkrs., \$30; Mahogany DR droplead table, ext. leaves, 5 chairs, \$500, OBO. Ron, 488-6549.

Sears Craftsman 6" planer, \$75; 4 1/4" tires/wheels, \$30. 482-2029.

Computer desk, 50x22, 1 dwr., monitor stand, \$50; sewing mach. stand, wood, fits std. mach., \$30. 480-6797.

# Back to School



JSC Photos by Bob Walck and Andrew "Pat" Patnesky



## Class of '90 astronaut candidates commence training

The 23 members of the 1990 astronaut candidate class reported to JSC in mid-July to begin a year of training and evaluation.

The candidates' first weeks on the job consisted of orientation briefings and tours. They also underwent physiological training that is a prerequisite to T-38 flight training.

Candidates also receive training in water and wilderness survival techniques, and SCUBA. They receive intensive instruction in the fundamentals

of aerodynamics, electronics, computers and shuttle systems and operations. Lectures on a variety of subjects ranging from space flight history to shuttle applied sciences are scheduled, too.

Parasail training is one of several training areas astronaut candidates concentrated on recently at Vance Air Force Base in Oklahoma. Above left, candidate Terrence W. Wilcutt was among the group who participated in the high-flying exercise. USAF Staff Sgt.

Eric P. Bjork lent a helping hand during the session.

Above center, astronaut candidate Ellen Ochoa is braced and ready for landing during a parasail training exercise.

Above right, candidate Susan J. Helms prepares herself for a body lifting experience during an ejection test training exercise.

Below left, Eileen Collins, a pilot astronaut candidate, gets ready for her first T-38 flight from the back seat. In

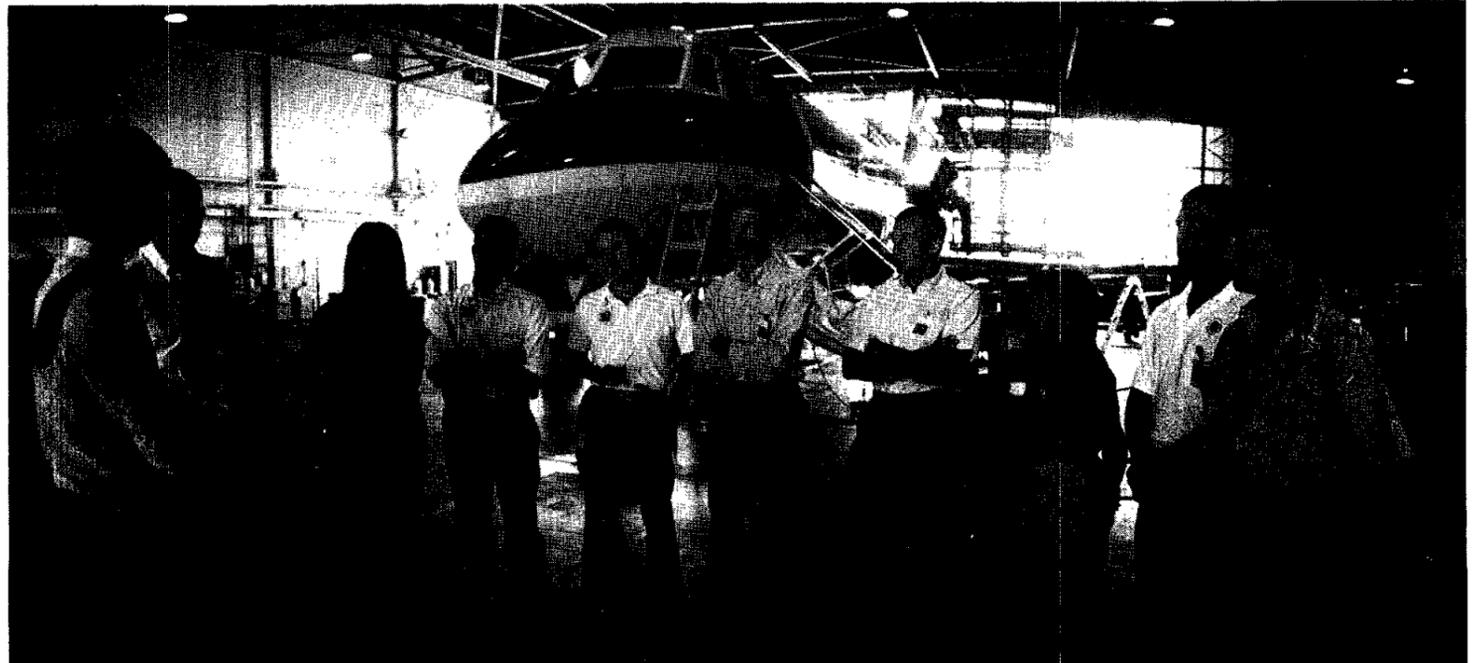
the front seat for Collins' flight was Stephanie Wells, a NASA staff pilot who is a T-38 flight and KC-135 test instructor.

Below right, astronaut candidates Kenneth D. Cockrell, Bernard A. Harris, Jr. and Carl E. Walz discuss the finer points of T-38 flights during the candidates' recent tour of Ellington Field.

Bottom left, blue skies and fair winds greeted astronaut candidate David A. Wolf during his first T-38 flight. Wolf got a bird's eye view of the landscape from

the back seat.

Bottom right, Charles R. Justiz, a trainer in the shuttle Training Support Branch, addresses several candidates during a tour of Ellington Field. The astronaut candidates were introduced to the T-38s and the associated flight operations. Candidates pictured are (left to right): William S. McArthur Jr.; Janice E. Voss; Donald A. Thomas; Thomas D. Jones; Richard A. Searfoss; Terrence W. Wilcutt; Nancy J. Sherlock; David A. Wolf; and Eileen M. Collins.



## Stewart to lead National Technical Association

Carrington H. Stewart, a JSC flight systems engineer and technical manager, has been elected chief executive officer of the National Technical Association.

Stewart assumes the duties of national president-elect for 1990-91 and will become national president and CEO Oct. 1, 1991. His term runs until Sept. 30, 1993.

The NTA was founded in 1925 and with more than 1,500 members in 23 states serves as the voice of the minority technical community.

Stewart founded the NTA's Houston chapter and was its president during its first three years. He said that in his new post he hopes to sustain the visibility of minorities in technology, keep minority professionals on the cutting edge of technology and encourage minority youths to pursue careers in science, engineering and mathematics.

## JSC People

### Secretaries earn special recognition

Margie R. Robertson and Diana R. Peterson recently received the Marilyn J. Bocking Secretarial Excellence Award.

Robertson, secretary for the Tracking and Communications Division Electromagnetic Systems Branch, has provided "outstanding" support for 20 subsystem management and project engineers. She was cited for developing a branch action item electronic file for use by branch supervisors and engineers. She is a certified professional secretary.

Peterson, secretary to Dr. Don Robbins, deputy director of Space and Life Sciences, also supports the assistant to the director for space station and the administrative officer. She was specifically cited for her ability to work well with the many domestic and foreign scientists who contact NASA. She is a certified professional secretary.

Both women received a plaque from JSC Director Aaron Cohen and a \$500 stipend.

### Cohen celebrates 30 years in NASA

JSC Director Aaron Cohen celebrated his 30th year of federal



Stewart



Robertson



Peterson



Cohen



Roiz

service this summer.

Deputy Director Paul J. Weitz presented the 30-year plaque to Cohen during a recent ceremony at JSC. The plaque and certificate were signed by NASA Administrator Richard H. Truly. Cohen normally signs length of service awards for JSC employees.

### Engineer doubles as actor in melodrama

Joe Roiz, an operations engineer for Pan Am World Services at JSC, recently completed a run

in a comedy melodrama at the Houston Skyline Theater.

Roiz, who operates diesel generators and other equipment in Bldg. 48, was cast as a confused small-town banker in "Don't Print That! or, The Face on the Newsroom Floor."

Playwright Eddie Cope said the piece was performed at the Gilruth Dinner Theater in 1982.

Roiz said he has appeared in other productions, including Playhouse 1960, Channing Players and Actors' Workshop, and is auditioning for new roles.

## Threshold Group planning second general assembly

The Threshold Group will vote on new officers and major changes to its charter at its second annual general assembly on Thursday.

The meeting will be at 4 p.m. Thursday in the Bldg. 30 auditorium. It's open to members and to anyone interested in joining or finding out more about Threshold.

Threshold is made up of about 200 civil service volunteers "committed to JSC's and NASA's future." It was formed to provide opportunities for personal development and communication with other professionals across organizational lines, to help promote NASA's image and to help retain JSC's "corporate knowledge."

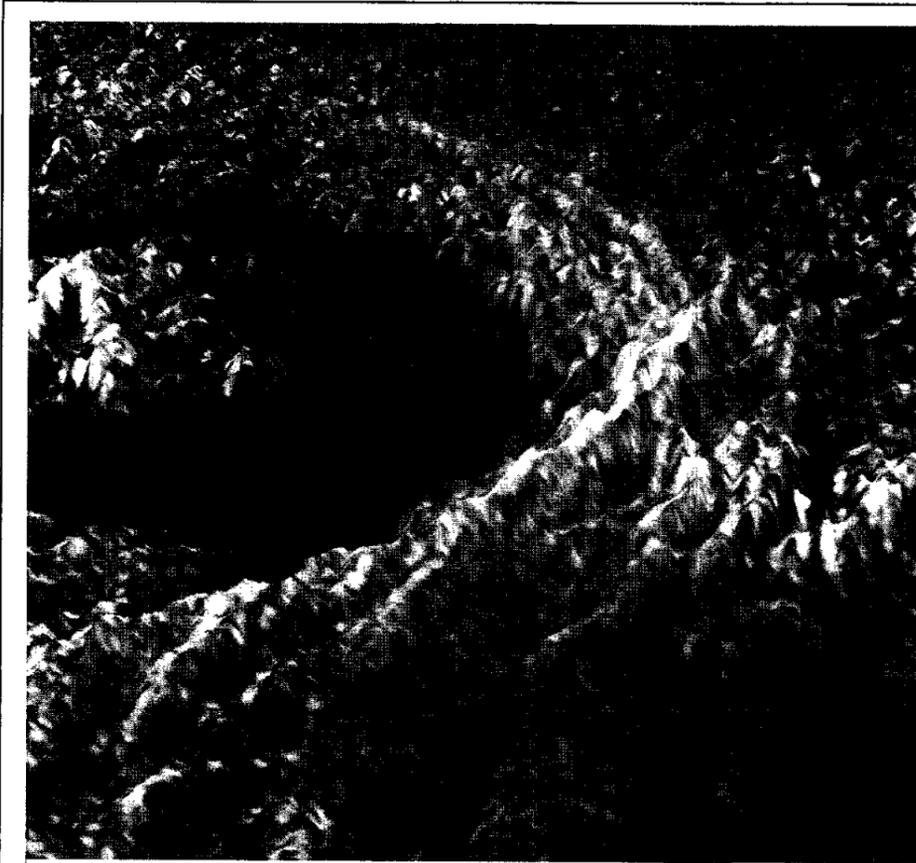
The group has taken on a number of projects during its first two years. One of the biggest successes was a regular Threshold Forum, at which people such as JSC Director Aaron Cohen, Christopher Kraft Jr., Max Faget and Bill Huffstetler are invited to participate in informal discussions. Deputy Engineering Director Max Engert is the scheduled guest for September.

Threshold also helped design the new JSC employee orientation and peer adviser programs, participated in studies about inter-center mobility and how NASA should be structured in the year 2000, helped build playground equipment for the JSC Child Care Center and participated in Houston's Habitat for Humanity home refurbishing efforts. It was among the many reasons that JSC received the 1990 federal Quality Improvement Prototype Award.

"We've done some good things in the past and I think we have a lot of good things left to do in the future," said James Sturm, coordinator of the group.

The proposed new charter has been reorganized, the election procedures have been changed and guidelines for evaluating activity proposals have been developed.

"We have a lot of growing to do," Sturm said. "We can still feel the infancy of the organization."



NASA Photo

**IMPRESSIVE IMAGE**—This picture of the 20-mile wide Golubkina crater on Venus is a three-dimensional image created from one of the spacecraft Magellan's first radar scans. The image was made from variations in brightness on Venus, the second planet from the Sun. Magellan was launched from Atlantis on STS-30 in May 1989. Ground controllers sent commands to Magellan Sept. 1 and awakened it from its deep-safe mode. Controllers Wednesday will order Magellan to send home radar data stored in its tape recorder.

## Columbia leak 'there all along'

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internal leakage was the result of purge feeding from the umbilical. Wednesday's problem changed that thinking.

"The external leak is apparently gone and corrected. What we were dealing with apparently was two leaks," Crippen said. "I think this leak's been there all along."

Crippen said NASA has until Sept. 14 to launch Columbia before it must shift its attention to getting Discovery and the Ulysses mission off the ground. The timing of that mission is more critical because its launch window is tied to a planetary alignment that is needed to boost Ulysses out of the solar system's orbital plane to look at the Sun's poles.

Crippen also said he is considering a pre-

launch tanking test on the STS-41 stack as a result of the leak on Columbia, but that the discovery of the leak on Columbia does not necessarily affect the launch readiness of the other shuttles.

"We've got to go look at where we stand now with the Ulysses mission on Discovery," Crippen said. "I have asked the guys to lay out a plan that would have a tanking test so I can assess what that would mean to us schedule-wise."

The STS-35 crew—Commander Vance Brand, Pilot Guy Gardner, Mission Specialists Mike Lounge, Jeff Hoffman and Bob Parker, and Payload Specialists Sam Durrance and Ron Parise—flew back to JSC Thursday morning to refresh their training by running through some simulations.

## Technology transfer van to visit

JSC will display a large 60-foot van illustrating NASA technology transfer efforts next month.

The technology utilization display will be set up in the parking lot south of Bldg. 25 from 9 a.m.-1 p.m. Oct. 9.

The traveling exhibit highlights the importance of transferring technology to the nation's private sector with the goal of making U.S. industry the best in the world.

Examples of products that are the result of space spinoffs will be shown, NASA contractor involvement in technology transfer and technology disclosures will be featured, and the NASA technology transfer network will be depicted.

The van will be open to all JSC and contractor employees.

## Smoke to be banned

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rooms. However, ventilation systems in most JSC buildings circulate air throughout the entire building, making it impossible to permit inside smoking and assure a smoke-free work environment.

"I realize that prohibiting smoking inside all buildings will significantly inconvenience those who still smoke," Cohen said. "Indeed, as a pipe smoker, this new policy will affect my behavior as well."

Cohen said supervisors will be responsible for assuring compliance. They will be required to permit brief breaks for employees

to go outside to smoke, but the breaks must be infrequent and not detract from normal productivity and job performance.

JSC smokers who would like to quit smoking before Jan. 1 can get help from the Human Resources Office. Smoking cessation programs will be provided onsite during duty hours. They will begin later this year and continue as long as there is interest. Program information will be announced later this year.

Anyone with questions about the new policy may call Bob Hall in the Human Resources Office at x30613.

## Space News Roundup

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## Ozone survey under way

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worldwide upper atmospheric ozone depletion and the creation of the Antarctic ozone "hole."

The Environmental Protection Agency has issued regulations that will phase out the use of several classes of CFCs by the year 2000, he said. And, he added, an excise tax that will effectively triple the cost of the materials will be imposed.

NASA Headquarters has mandated that all applications within the agency be identified by March 1991.

Herrmann said he hopes the JSC screening survey will identify

which JSC uses can be classified "essential," such as mission-related applications for which there are no proven available alternatives, so that a complete response to Headquarters' plan can be formulated.

"We have a pretty good idea of what's in use here, but we're trying to identify those not so evident," Herrmann said.

Herrmann asked that responses to the survey, distributed as JSC Announcement 90-141, be returned to the Environmental Services Office, Code JJ12, by Sept. 30.